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C. H. BUGG

2,605,487

PAINT ROLLER APPLICATOR

Filed June 28, 1948

FIG. 2.

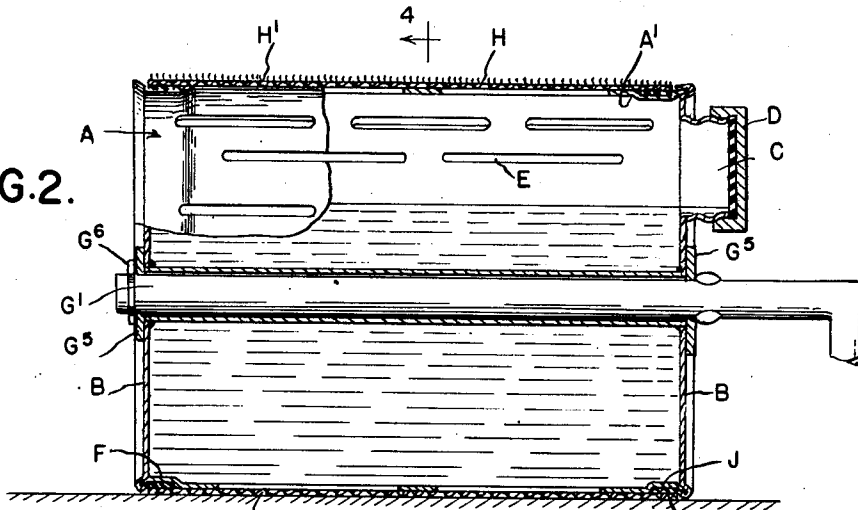


FIG. 5.

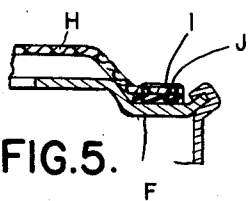


FIG. 3.

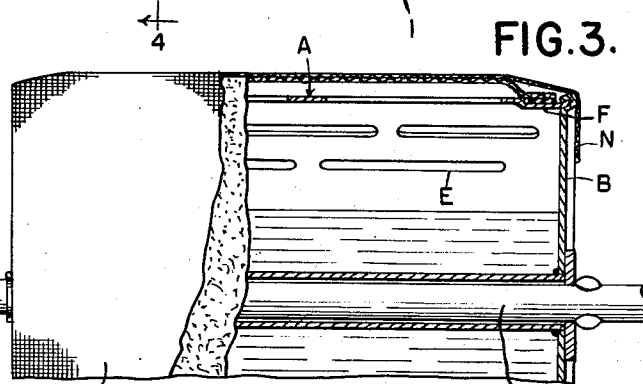


FIG. 4.

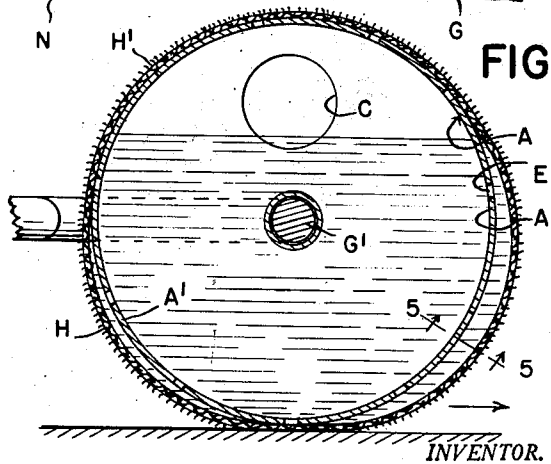
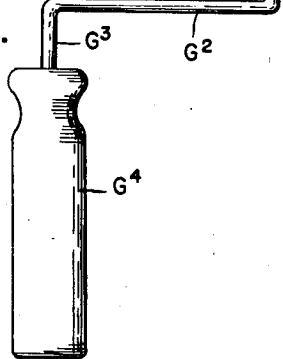


FIG. 1.



BY CHARLES H. BUGG

Whittemore Hulbert & Belknap

ATTORNEYS.

UNITED STATES PATENT OFFICE

2,605,487

PAINT ROLLER APPLICATOR

Charles H. Bugg, East Detroit, Mich., assignor of
one-third to Augustus C. Troden and one-third
to William A. Paxton, both of Detroit, Mich.

Application June 28, 1948, Serial No. 35,579

2 Claims. (Cl. 15—132.5)

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The invention relates to paint applying devices of that type in which the paint, or other fluid material, to be applied is contained within a hollow cylinder having a porous peripheral cover, and is applied by rolling the cylinder over a surface. The invention forms a continuation-in-part of my former application Serial No. 738,351, filed March 31, 1947.

It is the object of the invention to obtain a construction of applicator which will hold the paint from leakage when the device is not in use and, at the same time, will always be in condition for coating a surface over which the applicator is rolled.

It is a further object to obtain a construction in which the porous cover may be easily removed from the supporting roller for cleansing, repair or replacement when necessary.

It is a further object to obtain a construction which maintains a volume of fluid directly back of the portion of the cover about to be rolled on the surface, thereby forcing said fluid through the cover by the rolling pressure.

It is a further object to avoid any marking or smearing of the painted surface by the marginal portions of the fabric cover.

It is a further object to obtain a construction which is adapted for the application of either free flowing paint, such as enamel or semi-gloss paint, or a flat paint.

It is a further object to obtain a construction for producing either a smooth or a stippled effect in the painted surface.

With these and other objects in view the invention consists in the construction as hereinafter set forth.

In the drawings:

Fig. 1 is a plan view of the applicator;

Fig. 2 is a vertical axial section therethrough;

Fig. 3 is a similar view showing the cotton sleeve surrounding the woolen sleeve;

Fig. 4 is a cross-section on line 4—4, Fig. 2;

Fig. 5 is an enlarged view of a portion of Fig. 2.

As shown in Figs. 1 and 2, my improved applicator comprises a hollow, metallic cylinder or roller A having end heads B, one of which is provided with a filler nipple C and closure cap D. The peripheral portion A' of the cylinder is provided with circumferentially spaced, longitudinally extending, interrupted slots E through which fluid can pass outward from the interior of the roller. Adjacent to the heads B, the opposite ends of the peripheral portion A' are provided with depressed, circumferentially extending channels F for a purpose hereinafter described.

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The roller is mounted on a member G having a portion G' extending axially of the roller through the opposite heads B thereof, and a return bent portion G² which passes around one end to the center of the roller terminating in a radially outwardly extending portion G³. The latter is provided with a handle G⁴. The roller is held from endwise movement by collars or washers G⁵ on the portion G' and on opposite sides of the heads B, the end washer being held in position with a linchpin G⁶.

Surrounding the peripheral portion A' of the roller A is a porous flexible cover or sleeve H. This is preferably formed of a fairly closely woven fabric having a napped surface H'. The circumferential length of the sleeve is greater than that of the portion A' of the roller but at each of its opposite ends the sleeve has secured thereto by means of a gather I an elastic band J. This will engage with the channel F so as to hold the end portion of the sleeve within the circumference of the portion in contact with the cylinder A'.

With the construction as thus far described, when the cylinder A is loaded with paint or other coating fluid, this will pass through slots E' and in contact with the inner surface of the fabric sleeve H. Due to the fact that the circumferential length at the center of the sleeve is greater than that of the cylinder A', there will always be a quantity of fluid outside of the cylinder and within the sleeve which is in advance of the line of rolling contact with the surface to be painted. Consequently, as the roller is advanced by means of the handle G⁴, the fluid between the rigid member A' and the flexible sleeve H will be squeezed through the latter to be deposited on the surface. On the other hand when the applicator is merely laid down on a supporting surface, there will be no leakage of the fluid through the sleeve as the fabric of the latter is too closely woven for this to occur, excepting as there is internal pressure on the fluid inside of the same. During the rolling of the sleeve over the surface to be painted the gathered ends will be drawn into the grooves F and held out of contact with said surface. This will avoid any marking or smearing of the paint as might otherwise occur.

When a painting job is completed, the paint can be emptied from the container and the sleeve easily withdrawn from the rigid surface A' for proper cleansing.

The construction above described is similar to the constructions in my co-pending application

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Serial No. 738,351 in that in each the paint can flow between the outer surface of the metallic roller and the inner surface of the fabric.

The fabric sleeve H, as above described, is preferably formed of a closely woven woolen fabric which will hold the paint from leakage but will permit passage thereof to the outer surface under roller pressure. Where a free flowing paint is used, such as enamel or semi-gloss paint, it is desirable to further restrict the flow by surrounding the woolen sleeve with an elastic woven cotton sleeve or stocking N. This will decrease the size of the bulge of the woolen sleeve and the pool of paint therein, thereby restricting the flow of paint through the fabric. The cotton sleeve also imparts a smooth finish to the painted surface. When a flat paint is to be applied, the woolen sleeve alone may be used and if desired a stippled effect may be obtained through the medium of the nap on said sleeve. The cotton sleeve N is sufficiently elastic to be easily drawn over the roller and the sleeve H, and with its opposite end portions extending down over the ends of the roller which is also easily removed at any time.

What I claim as my invention is:

1. An applicator comprising a hollow cylinder fluid containing roller provided with an apertured peripheral wall having a smooth cylindrical outer face on the central portion thereof and also having circumferentially extending depressed channels in the opposite end portions thereof, a fabric sleeve surrounding said cylinder and of a circumferential length sufficiently greater than that of said wall so that in the rolling of said roller over a surface to be painted said sleeve is pressed by the cylindrical surface of the roller into close tangential contact with said surface to be painted with a portion of the sleeve in advance of the line of tangency spaced from the outer surface of the cylinder wall to hold fluid paint therebetween in full contact with the inner surface of said advance portion of the sleeve, and resilient circumferential contracting means

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at the opposite end portions of said sleeve closely fitting the same within said channels.

2. A paint applicator comprising a hollow cylinder fluid containing roller having a cylindrical outer surface with axially extending interrupted narrow slots in the cylinder wall in successive rows and overlapping each other, said roller having depressed annular channels in the opposite end portions thereof, a close woven fabric sleeve surrounding said cylinder and of a circumferential length sufficiently greater than that of the outer surface of the cylinder wall with the end portions thereof contracted, closely fitted and secured in said annular channels, so that in the rolling of said roller over a surface to be painted said sleeve is pressed by the cylindrical surface of the roller into close tangential contact with said surface to be painted with a portion of the sleeve in advance of the line of tangency spaced from the outer surface of the cylinder wall to hold fluid paint therebetween in full contact with the inner surface of said advance portion of the sleeve.

CHARLES H. BUGG.

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